

Remarks

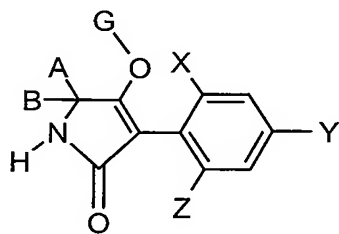
Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 2-6, 8, 9, 11, 12-15 and 17-19 are pending in the application, with claims 2, 17, 18 and 19 being the independent claims. Claim 1 is sought to be cancelled without prejudice to or disclaimer of the subject matter therein. Claims 2-6, 8, 9, 11, 12-15 and 17-19 have been amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

I. Description of the Invention

The present invention relates to novel 2-halo-6-alkylphenyl-substituted tetramic acid derivatives of formula (I),



(I)

to a plurality of processes and intermediates for their preparation and to their use as pesticides and/or herbicides. The invention also relates to novel selective herbicidal active compound combinations compounds of formula (I) and at least one crop plant

compatibility improving compound for use in the selective control of weeds in crops of useful plants.

II. Rejections under 35 U.S.C. § 103(a)

The rejection of claims 1-6, 8, 9 and 11 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,994,274 to Fischer *et al.* ("Fischer") is respectfully traversed. In view of the cancellation of claim 1, the rejection of claim 1 is rendered moot.

The Office is of the opinion that the compounds of the current application would have been obvious in light of Fischer, citing 60-year old case law, *In re Henze* 85 USPQ 261 (1950), *In re Wood* 199 USPQ 137 (CCPA 1978) and *In re Lohr*, 137 USPQ 548 (CCPA 1963). Applicants respectfully submit that the Office's conclusion is based on an over-generalization of the case law, and ignores more recent controlling decisions. Specifically, the courts have recently addressed the requirements for a determination of obviousness in the chemical compound area. See *Takeda v. Alphapharm*, 492 F.3d 1350 (Fed. Cir. 2007); *Takeda Chem. Indus. v. Mylan Labs.*, 459 F. Supp. 2d 227 (S.D.N.Y. 2006); *Eisai Co., Ltd. v. Teva Pharms. USA, Inc.*, No. 03-CIV-9223 (GEL), 2006 WL 2872615 (S.D.N.Y. October 6, 2006). Under these modern decisions, a prior art compound is usually identified as a "lead compound" and a rationale should be provided to modify that lead compound to make the claimed compounds.

The Office has asserted that a compound disclosed in Fischer (col. 45, line 44) differs from the compounds of the instant claims by the substitution of a methyl for an ethyl. Additionally, the Office has suggested that "[t]o those skilled in the chemical art,

one homologue is not an advance over an adjacent member of a homologous series."

Office Action, p. 4. Applicants respectfully disagree.

The Office has provided no explanation why a person of ordinary skill in the art would select compound I-1-a-3 or I-1-a-19 from Fischer as a starting point or why one would replace methyl with an ethyl at the Z position. In other words, a general motivation is simply not enough of an argument to establish a valid case of *prima facie* obviousness.

The Office has failed to provide a rationale why one of ordinary skill in the art would choose the compounds I-1-a-3 or I-1-a-19 from Fischer as a lead compound from among the hundreds of compounds recited by Fischer. Furthermore, the Office states that "it would have been obvious to one of ordinary skill in the art at the time of the invention to make the modification necessary to arrive at the elected compound.... This is especially true since the compounds of U.S. Patent No. 5,994,274 are used for the same purpose as the compound(s) of the instant claims...." Office Action, p. 4. The rationale the Office has provided is not sufficient to modify the selected lead compound in such a way as to arrive at the current invention. Accordingly, claims 1-6, 8, 9 and 11 are not *prima facie* obvious in light of Fischer and the rejection should be withdrawn.

Even assuming that a *prima facie* case of obviousness has been established, which it has not, the unexpected herbicidal action exhibited by the claimed compounds is sufficient to overcome any *prima facie* case of obviousness. Applicants submit herewith a Declaration under 37 C.F.R. § 1.132 ("Declaration") which recites the unexpected superiority of the claimed invention over Fischer. In the Declaration, chemist Dr. Heinz

Kehne, an inventor of the above-identified application, recites data from pre and post emergence herbicidal action of the compounds of the present invention to compounds from European Patent Publication No 0944633 (patent family member equivalent of U.S. Patent No. 6,288,102) and European Patent Publication No 0835243 (patent family member equivalent to Fischer). The results therein illustrate that a compound of the present invention with an ethyl group at the Z position were far more superior to the compounds from Fischer even at lower levels of application. Kehne's Declaration, pages 3-8. Specifically, compound 1-a-4 of the present invention has 100% efficacy in the destruction of Setvi, Avefa and Alomy weeds at an application rate of 80 g/ha when compared to a 100% efficacy of compounds from Fischer applied at a rate of 250 g/ha. *Id.*, at page 5. A second illustrative compound, 1-c-3, also demonstrates an efficacy of 100% in the destruction of Setvi, Avefa and Alomy weeds at an application rate of 80 g/ha when compared to and efficacy of 60%, 30% and 70%, in each of the weeds respectively, of compounds from Fischer applied at a rate of 250 g/ha. *Id.*, at page 6.

The data, therefore, shows that when an exemplary compound of the present invention is compared against an exemplary compound of Fisher in the same experiment, the compound of the present invention showed superior weed killing activity. *Id.*

III. Double Patenting

The rejection of claims 1-6, 8, 9 and 11 as allegedly being unpatentable on the ground of obviousness-type double patenting is respectfully traversed.

1. U.S. Patent No. 5,994,274

The rejection of claims 1-6, 8, 9 and 11 as allegedly being unpatentable on the ground of obviousness-type double patenting over claims 1-9 of U.S. Patent No. 5,994,274 (Fischer) is respectfully traversed. The Office has rejected claims 1-5 and 8 for nonstatutory double patenting for the same reasons as recited above for the § 103(a) rejection. Therefore, Applicants submit that the arguments above should render this rejection moot and hereby request that this rejection be withdrawn.

2. U.S. Patent No. 6,861,391

The rejection of claims 1-6, 8, 9 and 11 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-5 and 12-21 of U.S. Patent No. 6,861,391 ("the '391 patent") is respectfully traversed.

The claims of the present invention, as amended, recite compounds wherein A and B together with the carbon atom to which they are attached represent a saturated C₆-cycloalkyl in which optionally the third methylene group is replaced by oxygen and which is optionally substituted by C₁-C₆-alkoxy. The claims of the '391 patent in contrast, recite cycloalkyl groups that are substituted with a haloalkyl substituent. The compounds of the present application are a different class of compounds than those claimed by the '391 patent. The claims of the present application are therefore not rendered obvious by claims 1-5 and 12-21 of the '391 patent. Applicants respectfully request that this rejection be withdrawn.

3. U.S. Patent No. 6,555,567

The rejection of claims 1-5, 8 and 9 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,555,567 ("the '567 patent") is respectfully traversed.

The claims of the present invention, as amended, recite compounds wherein A and B together with the carbon atom to which they are attached represent a saturated C₆-cycloalkyl in which optionally the third methylene group is replaced by oxygen and which is optionally substituted by C₁-C₆-alkoxy. The claims of the '567 patent in contrast, recite compounds wherein the third methylene group of the cycloalkyl group is replaced with a sulfur. The compounds of the present application are a different class of compounds than those claimed by the '567 patent. The claims of the present application are therefore not rendered obvious by claims 1-8 of the '567 patent. Applicants respectfully request that this rejection be withdrawn.

4. U.S. Patent No. 6,479,489

The rejection of claims 1-4, 8 and 9 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,479,489 ("the '489 patent") is respectfully traversed.

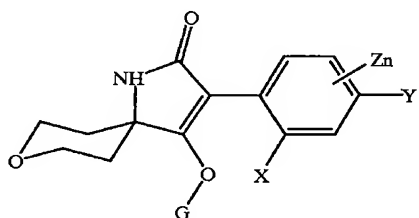
The claims of the present invention, as amended, recite compounds wherein A and B together with the carbon atom to which they are attached represent a saturated C₆-cycloalkyl in which optionally the third methylene group is replaced by oxygen and which is optionally substituted by C₁-C₆-alkoxy. The claims of the '489 patent, in contrast, recite compounds wherein the third methylene group of the cycloalkyl group is

replaced with a sulfur. The compounds of the present application are a different class of compounds than those claimed by the '489 patent. The claims of the present application are therefore not anticipated by claims 1-5 of the '489 patent. Applicants respectfully request that this rejection be withdrawn.

5. U.S. Patent No. 5,981,567

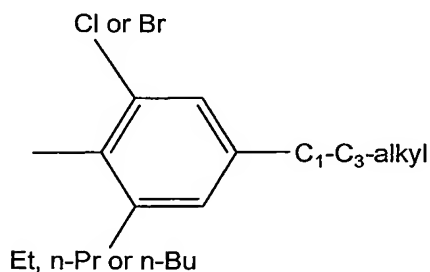
The rejection of claims 1-5, 8 and 9 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-3, 5 and 6 of U.S. Patent No. 5,981,567 is respectfully traversed.

The Examiner has stated that it would have been obvious to one of ordinary skill to make compounds of the instant claims given U.S. Patent No. 5,981,567 because the compounds of U.S. Patent No. 5,981,567 allegedly anticipate compounds of the instant claims. Office Action, p. 8-9. Applicants respectfully disagree. The claims of U.S. Patent No. 5,981,567 disclose compounds of formula



wherein X represents C₁-C₆-alkyl, halogen or C₁-C₆-alkoxy, Y represents hydrogen, C₁-C₆-alkyl, halogen or C₁-C₆-alkoxy or C₁-C₃-halogenoalkyl and Z_n represents C₁-C₆-alkyl, halogen or C₁-C₆-alkoxy and n represents 0 or 1.

The claims of the present invention are drawn to compounds of formula (I) wherein the specific substitution pattern of the phenyl radical is:



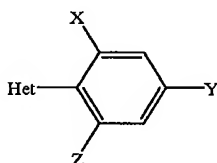
The claims of U.S. Patent No. 5,981,567 disclose thousands of compounds. The Office has not provided a reason why a person of ordinary skill in the art would choose a compound wherein X is chlorine or bromine, Y is C₁-C₃ alkyl and Z is ethyl, n-propyl or n-butyl as a lead compound from among the thousands of compounds recited by U.S. Patent No. 5,981,567. Furthermore, claims 4 and 9 of U.S. Patent No. 5,981,567 are directed to specific compounds that teach away from the compounds of the present invention. The rationale the Office has provided is not sufficient to modify the selected lead compound in such a way as to arrive at the current invention. Accordingly, it would not have been obvious to one of ordinary skill in the art to make the compounds of the instant claims. Applicants respectfully request that this rejection be withdrawn.

6. U.S. Patent No. 6,358,887

The rejection of claims 1-5, 8 and 9 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-3, 6, 7 and 8 of U.S. Patent No. 6,358,887 ("the '887 patent") is respectfully traversed.

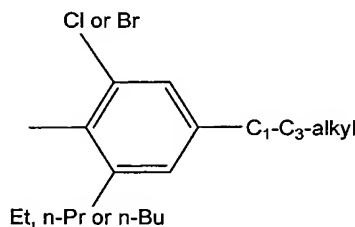
The Office has stated that it would have been obvious to one of ordinary skill to make compounds of the instant claims given the '887 patent because the compounds of the '887 patent allegedly anticipate compounds of the instant claims. Office Action, p. 9. Applicants respectfully disagree.

The claims of the '887 patent disclose compounds of formula



wherein X, Y and Z represent a large variety of radicals.

The claims of the present invention are drawn to compounds of formula (I) wherein the specific substitution pattern of the phenyl radical is:



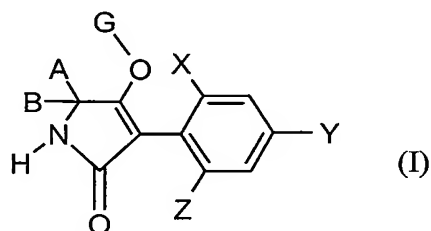
The claims of the '887 patent disclose thousands of compounds. The Office has not provided a reason why a person of ordinary skill in the art would choose a compound wherein X is chlorine or bromine, Y is C₁-C₃ alkyl and Z is ethyl, n-propyl or n-butyl as a lead compound from among the thousands of compounds recited by the '887 patent. Furthermore, claim 4 of the '887 patent is directed to a specific compound, teaching away from the compounds of the present invention. The rationale the Office has

provided is not sufficient to modify the selected lead compound in such a way as to arrive at the current invention. Accordingly, it would not have been obvious to one of ordinary skill in the art to make the compounds of the instant claims. Applicants respectfully request that this rejection be withdrawn.

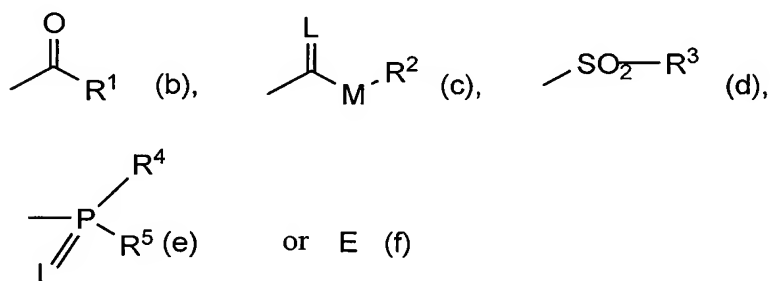
7. ***U.S. Patent No. 5,616,536***

The rejection of claims 1-4, 8 and 9 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-4, 7 and 8 of U.S. Patent No. 5,616,536 ("the '536 patent") is respectfully traversed.

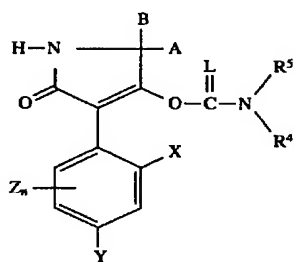
The claims of the present invention, as amended are directed to a compound of formula I



G represents hydrogen (a) or represents one of the groups



The claims of the '536 patent, in contrast are directed to substituted 3-aryl-pyrrolidine-2,4-dione derivatives of the general formula (I):



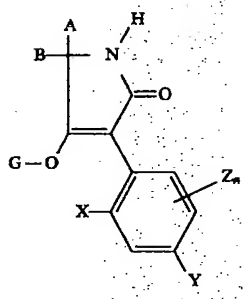
The compounds recited by the claims of the '536 patent contain a different G group than the claimed compounds of the present application. The claims of the present application are therefore not anticipated by claims 1-4, 7 and 8 of the '536 patent. Applicants respectfully request that this rejection be withdrawn.

8. U.S. Patent No. 5,462,913

The rejection of claims 1-5, 8 and 9 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 5,462,913 ("the '913 patent") is respectfully traversed.

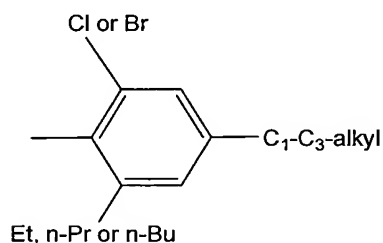
The Office has stated that it would have been obvious to one of ordinary skill to make compounds of the instant claims given the '913 patent because the compounds of the '913 patent allegedly anticipate compounds of the instant claims. Office Action, p. 10-11. Applicants respectfully disagree.

The claims of the '913 patent disclose compounds of formula



wherein X represents C₁-C₆-alkyl, halogen or C₁-C₆-alkoxy, Y represents hydrogen, C₁-C₆-alkyl, halogen or C₁-C₆-alkoxy or C₁-C₃-halogenoalkyl and Z_n represents C₁-C₆-alkyl, halogen or C₁-C₆-alkoxy, n represents 0, 1, 2 and 3. Furthermore, the A, B and the carbon atom to which they are attached represent a C₃-C₆ spirocycle which is substituted by an alkylenediyl group.

The claims of the present invention are drawn to compounds of formula (I) wherein the specific substitution pattern of the phenyl radical is:



The claims of the '913 patent disclose thousands of compounds. The Office has not provided a reason why a person of ordinary skill in the art would choose a compound wherein X is chlorine or bromine, Y is C₁-C₃ alkyl and Z is ethyl, n-propyl or n-butyl as a lead compound from among the thousands of compounds recited by the '913 patent. The rationale the Office has provided is not sufficient to modify the selected lead compound in such a way as to arrive at the current invention. Accordingly, it would not

have been obvious to one of ordinary skill in the art to make the compounds of the instant claims. Applicants respectfully request that this rejection be withdrawn.

IV. Objections to the Claims

Claims 12-15 are objected to for depending on a rejected base claim. Applicants have cancelled claim 1 and completely addressed the rejection of claim 2. Claims 12-15, as amended, depend directly or indirectly from claim 2. Applicants respectfully submit that objection to claims 12-15, as amended, is therefore improper and Applicants request that the objection be withdrawn.

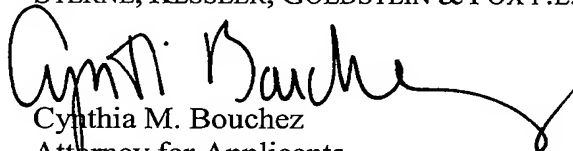
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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